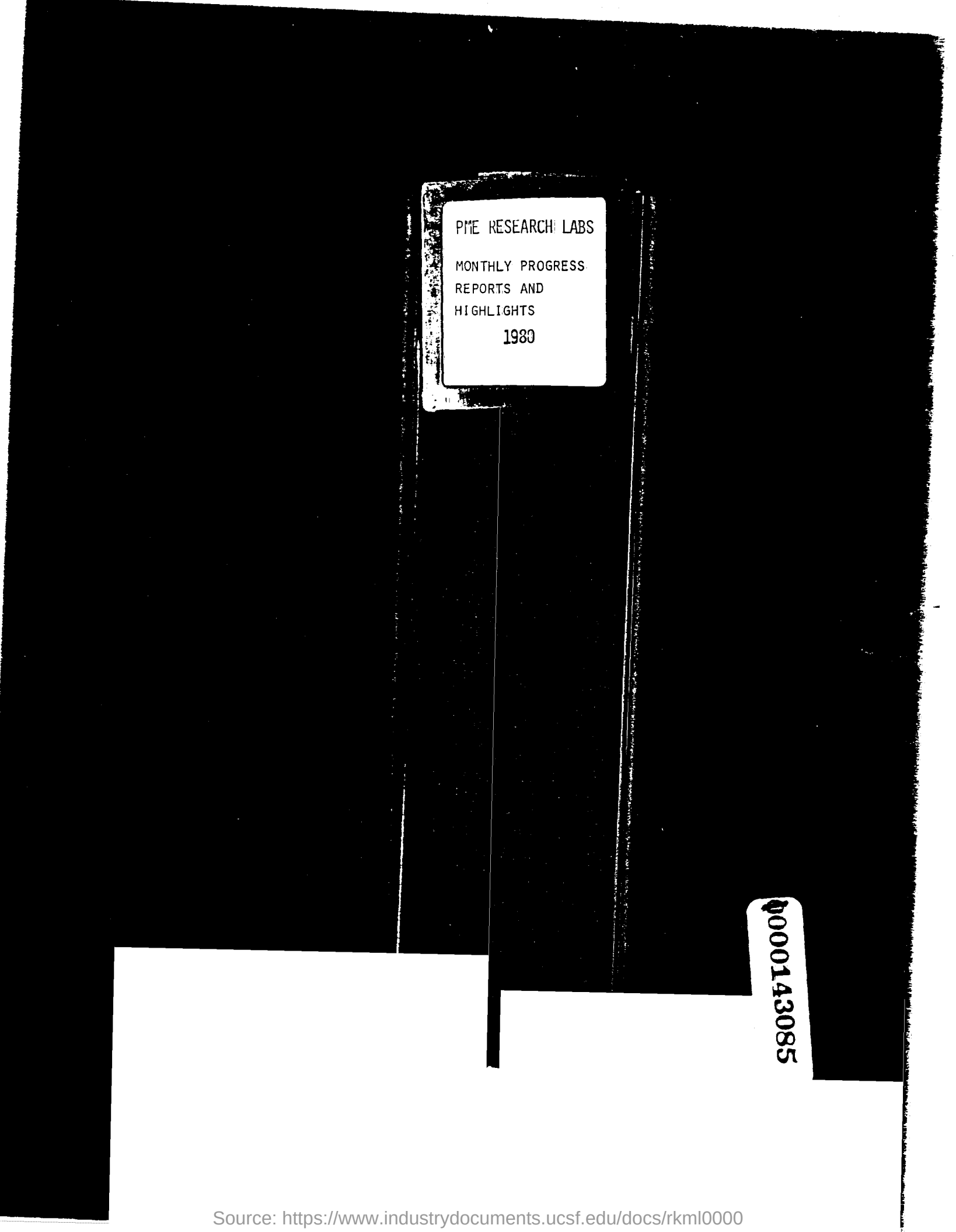

Complete } E.Y.I.
Charles } sent to TSO
1/23/87

PHILIP MORRIS
EUROPE MIDDLE EAST AFRICA
RESEARCH AND DEVELOPMENT

Monthly Progress Reports

Strictly Confidential

DECEMBER 1980

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List of projects covered.

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PROJECT TITLE : PRODUCT RESEARCH

PERIOD COVERED : DECEMBER 1 - 23, 1980

WRITTEN BY : Y. GENOUD

TRIACETIN ANALYSIS

With the objective to find out about the types of triacetin used by competitors, triacetin and glycerol-propionate-diacetate (GPD) concentrations in CA filters of most of the competitive brands listed in the CI Report 4/5 1980 have been monitored by $(GC)^2$ (1).

Based on earlier investigations (2), types of triacetin used have been assigned according to the distinct GPD concentrations found :

A - Estrobond B (Eastman) and Amcel :~0.6 - 1.3% GPD.

B - Celanese :~2.0 - 2.6% GPD.

C - Rhodia, Henkel, Unichema, Chemial, Unem, Bayer : GPD< 0.5% or GPD - free triacetin.

In Table 1, information concerning country, manufacturer, brand name as well as triacetin and GPA/triacetin concentration and type of triacetin used are given.

- Concentration of triacetin found in CA filters of competitive brands vary between 0 and 13%.
- Most of the competitors are using GPD-free triacetin.
- Competitors are probably playing with triacetin concentrations to change taste characteristics, e.g. Burrus : Select F with 10.3% triacetin and Select special mild with only 2.9%.
- Some of the competitors are using different types of triacetin : RJR (Switzerland) for Camel F Estrobond B with 1.3% GPA, for Camel mild GPD-free triacetin.

  For Parisienne, Burrus uses triacetin of Celanese with 2.6% GPD, for Parisienne Super GPD-free triacetin and for Kent Special Estrobond B with 0.8% GPD.

It seems that at least some of the competitors are well aware of the fact that taste and impact of cigarette smoke can be influenced by triacetin quality and quantity.

REFERENCES

1. Memo from M. Häusermann to W. Fink, July 17, 1980.
2. Report from Y. Genoud to A. Widmer "Analyse de la Triacetine et de Humectants par colonne Capillaire", April 4, 1980.

Y. Genoud

PROJECT TITLE : ANALYTICAL INVESTIGATIONS

PERIOD COVERED : DECEMBER 1 - 23, 1980

WRITTEN BY : F. MOSER

SERVICE FOR OTHER GROUPS

The following analytical determinations were carried out :

- Ca, K and Mg in 29 extracts submitted by Process Development (NINO).
- SH index in 55 TLA samples and in 4 experimental cigarettes submitted by PM Richmond (1).
- Nicotine and minor tobacco alcaloids nornicotine, myosmine, anabasine, anatabine and nicotyrine in 46 MD tobacco samples (2).

REFERENCES

1. Memo from W. Fink to J. Charles - December 15, 1980.
2. Report by P. Karle - "Chemical, Physical and Organoleptic Examination of MD Tobacco" September 19, 1979.

F. Moser

PROJECT TITLE : ANALYTICAL INVESTIGATIONS

PERIOD COVERED : DECEMBER 1 - 23, 1980

WRITTEN BY : E. LECOULTRE

COMPOUND IDENTIFICATION

A new metabolic product of yeast *Candida utilis* NCYC 707 was detected in fermented extract NINO 63-6-45 by gas chromatography (peak RT 3.98 min ; Fig. 1).

Following the request made by Process Development (1) the compound was investigated by GC/MS and identified by M^+ and fragmentation as 2 - butanone.

ORGANIC ACIDS BY GC

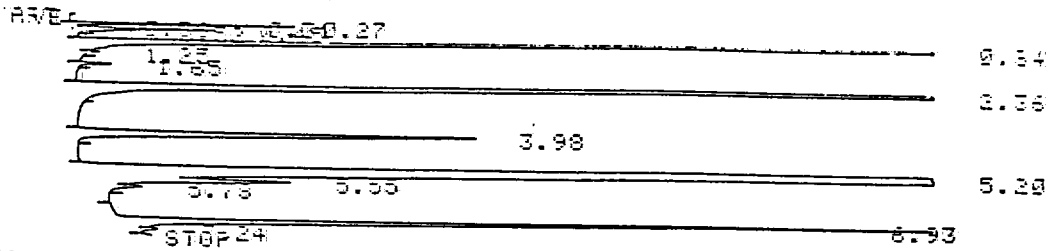
The study of the derivatization of organic mono-, di- and tri-carboxylic acids with p-bromophenacyl bromide and quantitation by gas chromatography was continued (2). Although derivatization works satisfactorily, p-bromophenacyl derivatives of di-and tri-carboxylic acids could not be analysed by gas chromatography, due to partial decomposition.

The possibility of analysing acetic, citric, lactic, malic, succinic, fumaric, tartaric and pyruvic acid as ethyl ester derivatives, prepared via silver carboxylates and reaction with ethyl iodide in pentane (3), is presently being investigated.

REFERENCES

1. Verbal request by C. Ruf, December 1980.
2. E. Lecoultre, PME Research Laboratory Monthly Progress Report September 1980.
3. R. Gloor and H. Leidner, Chromatography, 9, 618 (1976).

E. Lecoultre



RUN # 30
CAPE

RUN # 30
TTLE 36
EA %

RT	AREA	AREA %	
0.27	1254	0.587	
0.31	1082	0.506	
0.36	345	0.161	
0.45	2025	0.948	
0.52	760	0.356	
0.84	87280	40.847	Ethanol
1.25	447	0.209	
1.65	547	0.256	
1.96	59360	27.780	2-Propanol
2.90	15740	7.366	2-butanone
3.98	332600	155.656	2-butanol
5.20	8132	3.806	n-butanol
5.75	1611	0.754	
5.95	22350	10.460	3-hydroxy-2-butanone
6.24	658	0.308	

FACTOR: 2.5000 E+ 0

Fig. 1

FERMENTED EXTRACT NINO 63 - 6 - 45

PROJECT TITLE : AGRICULTURAL CHEMICALS

PERIOD COVERED : DECEMBER 1980

WRITTEN BY : M. SPECK

ROUTINE ANALYSIS

Number of samples analysed for pesticide residues in December :

Organochlorines	38
Organophosphorus	38
Dithiocarbamates	32
Maleic Hydrazide	38

The total number of samples analysed for pesticide residues at INBIFO in 1980 is given in Table 1. -

Table 1

MONTH	ORGANO-CHLORINES	ORGANO-PHOSPHORUS a)		DITHIO-CARBAMATE	MALEIC HYDRAZIDE	RIDOMIL
JAN.	38	38	(10)	25	5	0
FEB.	64	64	(4)	59	17	53
MAR.	57	57		56	0	55
APR.	56	56	(23)	30	21	0
MAY	44	44	(32)	38	32	32
JUN.	54	54	(1)	46	4	0
JUL.	69	69	(7)	43	7	2
AUG.	44	44	(18)	43	41	0
SEP.	104	66	(24)	91	98	8
OCT.	46	46	(10)	29	24	0
NOV.	27	29		25	38	0
DEC.	38	38		32	38	0
TOTAL	641	605	(129)	517	325	150

a) Numbers in brackets : Additional determinations of Methamidophos.

For the first time Ridomil was analysed on a routine basis in 1980.

In spite of the enhanced requests for Maleic Hydrazide determinations and the additional Ridomil analysis, the total number of determinations in 1980 was only slightly higher than in 1971 (Table 2).

YEAR OF DETER-MINATION	ORGANO-CHLORINES	ORGANO-PHOSPHORUS a)	DITHIO-CARBAMATE	MALEIC HYDRAZIDE	RIDOMIL	TOTAL
1977	769	769	500	82	0	2120
1978	773	773	452	191	0	2189
1979	805	805 (31)	430	176	0	2247
1980	641	605 (129)	517	325	150	2367

a) Numbers in brackets : Additional determinations of Methamidophos.

PUBLICATION

M. Speck and E. Dirr, "Gas Chromatographic Determination of Metalaxyl (Ridomil) Residues in Tobacco", J. Chromatogr. 200 (1980) 313.

19th MEETING OF THE CORESTA PESTICIDE SUB-GROUP

The meeting took place in Trier (BRD), on 3 - 4 December, 1980.

Topics of general interest :

Pyrethroides

Mr. Toet reported that in Zimbabwe field experiments with synthetic pyrethroides in tobacco growing have been started. The experiments are not yet fully evaluated.

Kabat

It was reported that the Zoecon Corporation, which produces this substance, is making a great effort to sell Kabat to cigarette companies.

Aldicarb

The last joint experiment gave two groups of results, one around 12 mg/kg and one around 22 mg/kg.

A new joint experiment using the CORESTA method was decided to prove if the oxidation step, the most critical step of the method, is necessary.

Ridomil

No more efforts were made to work out a method for the determination of Ridomil, because Ciba-Geigy is developing a new one, said to be of use in the determination of Ridomil and metabolites. Nothing was said about the structure of these metabolites.

Toxicological studies with Ridomil at Ciba-Geigy are not yet finished.

On tobacco, only a compound preparation of Ridomil and dithiocarbamates will be used.

Carbamates a)

Carbamates used in tobacco growing areas are Propoxur, Carbaryl, Carbofuran and Methomyl. The metabolism of this group of substances in the plant is very fast and the metabolites show only low toxicity, so that there seems to be no necessity to work out a residue method for these pesticides.

Maleic Hydrazide

No work has been reported to be going on in other tobacco companies to develop an easier and not so dangerous method for the determination of maleic hydrazide.

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a) An HPLC method for the determination of Propoxur, Carbaryl and Carbofuran was developed by INBIFO in 1979. (This was not disclosed at the pesticide sub-group meeting).

M. Speck

PROJECT TITLE : BIOTECHNOLOGY

PERIOD COVERED : DECEMBER 1 - 23, 1980

WRITTEN BY : D. SCHULTHESS

INFLUENCE OF AMMONIA ON NITRATE ASSIMILATION (1)

The trials using semi-synthetic media were completed and the results previously described (2) confirmed. Trials were started using tobacco extracts.

TWO-STAGE NINO DENITRATION (3)

It has often been observed in batch trials that *Candida utilis* NCYC 707 continues to denitrate after the exhaustion of glucose. Moreover cells produced in the continuous process look very healthy and full of reserve materials.

Tests were started to determine whether the yeasts produced in a normal continuous denitration process are still capable to assimilate more nitrate without getting any other nutrients.

A two-stage fermentation system is used for this purpose. In a first fermenter yeasts and denitrated tobacco extract are produced under standard NINO conditions at a dilution rate of 0.2 hr^{-1}.

The product is fed into a second fermenter and mixed with the same quantity of untreated tobacco extract. It was observed in a first trial that the yeasts were capable of assimilating another 800 mg nitrate within 5 hours. Trials to optimize this process continue.

REFERENCES

1. J. Berney - Notebook 800802, 17 - 24.
2. J. Berney Monthly Report, Biotechnology November 1980.
3. J. Berney - Notebook 800802, 25 - 28.

D. Schulthess

PROJECT TITLE : PROTAGORAS

PERIOD COVERED : DECEMBER 1 - 23, 1980

WRITTEN BY : D. SCHULTHESS

ANALYSIS OF PARTIALLY DEPROTEINATED CIGARETTES (1)

900 g tobacco mixture (B - Blend, Project Spotless) were extracted during 6 hours with 9 l water containing 900 mg protease (Calbiochem) at pH 7.5 and 37°C.

The extracted tobacco was dried and sprayed with 200 ml of a 50% potassium citrate solution. Cigarettes were manufactured and analysed (OS - B - PROT 1). As comparison the values of cigarettes containing untreated tobacco (OS - B - tot) and Spotless tobacco (OS - B - SPO) are added :

	OS - B - tot	OS - B - SPO	OS - B - PROT 1
Filler			
TA %	1.96	0.18	0.25
RS %	6.70	0.00	0.00
$N\text{-}NO_3$ %	0.25	0.00	0.03
$N\text{-}NH_3$ %	0.31	0.05	0.05
Kieldahl-N %	3.22	2.21	1.68
Protein %	14.50	13.31	9.73
Smoke			
CO (MS) mg/cig	16.10	15.30	9.10
CO (SS) µg/cig	41.60	55.80	24.10
NO (MS) mg/cig	0.31	0.03	0.03
NO (SS) mg/cig	1.72	1.15	0.39
TPM mg/cig	19.1	13.2	10.08
SN mg/cig	1.31	0.21	0.23
HCN µg/cig	243	91	28
Puff count	8.0	6.4	9.4
Aldehydes mg/cig	1.41	1.40	1.29
ISH %	38	34	37
RTD mm H_2O	113	110	117
Tobacco weight	755	653	689

FTIR - ANALYSIS (2)

The following three tobacco samples have been sent to PM Richmond for FTIR - analysis (3) :

1. OS - B - tot.
2. OS - B - tot, extracted during 6 hours 1 : 10 with water at 37°C, pH 7.5.
3. OS - B - tot, extracted during 6 hours with water containing 750 mg protease VIII (Sigma) at pH 7.5 and 37°C.

ELIMINATION OF PROTEIN FROM TOBACCO EXTRACTS (4)

Tobacco extract containing 8 g/l protein was supplemented with 10 g/l glucose and 0.2% potassium dihydrogen-phosphate. The mixture was sterilized and inoculated with *Candida utilis* NCYC 707. The pH was set at 5.5 and the temperature at 30°C. After an incubation of 24 hours, 33% of the protein was eliminated. Trials continue to improve these results.

REFERENCES

1. A. Hänggi - Notebook 791201, 16 - 19.
2. A. Hänggi - Notebook 791201, 21.
3. Memo from H. Gaisch to D. Schulthess dated 2.10.80.
4. A. Hänggi - Notebook 791201, 29 - 32.

Schulthess

D. Schulthess

PROJECT TITLE : SAVOURY

PERIOD COVERED : DECEMBER 1980

WRITTEN BY : P. GHISTE

The objective of the project SAVOURY is to prepare flavour formulations using NINO mass and its hydrolysis products as raw material. Upon pyrolysis these formulations should produce a (burley) tobacco type flavour and they should be applied to improve the subjectives primarily of RL sheet.

The present problems are :

- The installation of an olfactory test system to make a first evaluation of the flavour formulations produced.
- The screening of test conditions for the reaction between hydrolized NINO mass proteins and sugars.

1. Flavour Evaluation

Flavour samples are sprayed on plain RL and pyrolized at different conditions (temperature, % oxygen, flow rates). The flavours obtained will be compared to those delivered during pyrolysis of a high quality burley tobacco.

The temperature of four ovens has been calibrated for a range of between 100° and 800°C. The desired temperatures are reached after 20 minutes.

A training period has started to obtain the subjective impression of the characteristic burley pyrolysis flavour at different test conditions.

2. Production of Reaction Flavours

Two non enzymatic browning reactions were produced using the following conditions :

	Flavour HCl 32	Flavour H_3PO_4-11
Initial amino acid composition	Standard Hydrolysis HCl (6N)	Standard Hydrolysis H_3PO_4 (10N)
Time of reaction (hr)	15	75
Temperature of reaction ($^{\circ}C$)	90	90
pH of reaction	3.5	7.0
Agent of neutralization	NH_4OH	NH_4OH
Sugar	Glucose	Glucose
Total solid content (%)	55	55

P. Ghiste

PROJECT TITLE : Nitrate Reduction by Controlled Fermentation

PERIOD COVERED : December 1st - 24th, 1980

WRITTEN BY : C. Ruf

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1. TRIALS

1.1. No denitration trials were carried out in December due to maintenance of the pilot plant. However some extraction, re-application and drying trials were made with strips (Ref. 1).

1.2. Trials with both RL stems and Burley strips will probably be run next year. Therefore a certain amount of each of these feedstocks has already been ordered from the Leaf Department (Ref. 2).

2. EVALUATION OF DENITRATION PROCESSES

On December 2nd, 1980 Mr. Häusermann took part in a meeting in Richmond.
The aim of the meeting was to decide whether the RL sheet of the Park 500 third line should be fully denitrated, and if so, which of the three processes should be adopted (Ref. 3).
The decision taken was mainly based on the comparative study prepared by the Manufacturing Engineering Department. (Ref. 4).
It was decided to fully denitrate RL in the third line and to test one electrodialysis unit for 1/7 of the SEL flow in Park 500 before a final decision will be taken by Richmond management.

3. STRIP DENITRATION

3.1. We received some information on the denitrated strips treated in trial NINO 65 from Richmond (Ref. 5).
After Burley casing, these strips were blended and cut to produce US Marlboro cigarettes. We have received some of these cigarettes and are expecting the corresponding analyses.

3.2. When a strip extract is analyzed, a great reduction of ammonia nitrogen, after addition of just sugar, is observed. Experiments with a solution of ammonium salts in water led to the same conclusions (Ref. 6). This phenomenon, which could be related to an amino sugar reaction, will be further investigated.

4. PILOT PLANT

See monthly report : "Pilot Plant Operations", December 1980, by N. Lüthi.

5. MISCELLANEOUS

A presentation on strip denitration was given by Messrs Friedrich, Lüthi and Ruf on December 9th. It was followed by a brain storming session on product evaluation.

6. REFERENCES

Ref. 1 : "Pilot Plant Operations", December 1980, by N. Lüthi.

Ref. 2 : Letter from C. Ruf to H. Boeckle, December 19th, 1980.

Ref. 3 : "Denitrated sheet on third Park 500 line", by M. Häusermann, December 9th, 1980.

Ref. 4 : "Second generation RL denitration for line III - Park 500", by M. Maher, November 19th, 1980.

Ref. 5 : Telex from G. Gellatly to H. Friedrich, December 18th, 1980.

Ref. 6 : Notebook No. 2, p. 41 - 43, J.-M. Chassot.

PROCESS DEVELOPMENT

C. Ruf

CLR/sde
January 9th, 1981

PROJECT TITLE : Pilot Plant Operations

PERIOD COVERED : December 1st - 24th, 1980

WRITTEN BY : N. Lüthi

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1. MAINTENANCE OF THE EQUIPMENT IN THE PILOT PLANT

The maintenance of the equipment in the Pilot Plant was carried out according to plan and was completed on December 5th, 1980 (Ref. 1).

All the equipment, except for two parts mentioned below, was cleaned and overhauled and is ready for further trials.

1.1. Dryer

The inlet conveyor of the dryer is still in the FTR workshop waiting to be overhauled.

1.2. Tank for additive preparation

The simple mechanical seal of the agitator of this tank was found to be extremely worn. Instead of changing only the worn parts, it was decided to replace the existing seal by a double mechanical seal.
An offer was requested from the supplier for this modification.

2. PROCESS STEPS FOR THE DENITRATION OF BURLEY STRIPS

Since December 8th, 1980 several extraction, re-application and drying trials have been carried out in the Pilot Plant.
The results of these trials will be reported in the monthly report of January 1981.

3. LABORATORY

The device for generating distilled water arrived and was installed.

4. MISCELLANEOUS

All the equipment for the RL hand sheet-making unit arrived and was installed.
The first trials were carried out by D. Borgognon (Ref. 2).

5. REFERENCES

Ref. 1 : "Révision de l'installation-pilote NINO, novembre - décembre 1980", report from J. Brosy, January 1981.

Ref. 2 : Notebook No. 2, D. Borgognon, p. 14 + 15.

PROCESS DEVELOPMENT

N. Lüthi

NIL/sde
January 9th, 1981

PROJECT TITLE : UNIT OPERATIONS I

PERIOD COVERED : November 3rd - December 24th, 1980

WRITTEN BY : H. Friedrich

NINOMASS

The test to use NINOmass in chicken fodder was completed during the month of November 1980.

According to Dr. Durrer from VLGZ no specific problems were encountered during the test and the report on the experiment is being prepared by Dr. Pfirter, ETH (Ref. 1).
This report is expected to be ready in January 1981.

RL-HANDSHEET MAKING UNIT

The Williams sheet mold, the freeness tester and the Valley beater-refiner were received and installed in the pilot plant.

Extracted stems were refined and different base-web hand sheets were made (Ref. 2).

REFERENCES

Ref. 1 : Phone call from Dr. Durrer, VLGZ, December 18th, 1980.

Ref. 2 : Notebook No. 791104, pages 14 - 16, D. Borgognon.

PROCESS DEVELOPMENT

H. Friedrich

H. Friedrich

HEF/sde
January 12th, 1980

PROJECT TITLE : RECONSTITUTED TOBACCO

PERIOD COVERED : December 1st - 24th, 1980

WRITTEN BY : H. Friedrich

MONIQUE/RCB

Production

The total annual sheet output for the year 1980 was 393'652 kg or 98% of the planned production of 402'000 kg.

One hundred kg of feedstock tobacco material yielded 105 kg of finished sheet in average (Ref. 1).

The dust fraction of the feedstock, representing 152'000 kg per year, was entirely recovered from factory generated OTMs which could not be used before due to their small particle size.

Maintenance (Ref. 2)

During the last three working days of the year the installation was thoroughly cleaned and different parts were repaired or overhauled.

Luwa ventilation system

The air flow of the ventilation system was strongly reduced due to deposits on the heat exchangers.
It was decided to clean the batteries by high pressure jet.

Monique/RCB trials

Nothing to report.

REFERENCES

Ref. 1 : Utilisations et valeurs effectives, Fabrication RCB/ Monique, Cost, décembre 1980.

Ref. 2 : Rapport mensuel, Préfabrication Onnens - Tabac reconstitué, J.-P. Caccivio, décembre 1980.

PROCESS DEVELOPMENT

H. Friedrich

H. Friedrich

HEF/sde, January 9th, 1981

PROJECT TITLE : CIGARETTE DEVELOPMENT - TECHNICAL REPORT
WRITTEN BY : J.-H. DU BOIS
PERIOD COVERED : November 25th - December 19th 1980

S W E D E N

255 GOSTA I

Objective

A product delivering 1 mg tar or less. SN and CO values are not specified and should be commensurately low. American blend type of taste. Moderate size format with cork tipping paper.

Description of samples and results

Prototypes 26 and 29 were repeated on a larger scale in order to confirm the analytical results.

The tobacco weight was also lowered and the analytical figures for these four prototypes will be available by the end of week 50.

The dilution measurement confirms the previous results and are found to be 81 % and 80 %.

Follow-up

The Scandinavian situation will be discussed at the Scandinavian New Product meeting which will be held at Lausanne on the 18th of December 1980.

Z. Singer is taking over all the Scandinavian projects as from now.

J. DuBois

J.-H. Du Bois

01/08/1981/JHD/cap

PROJECT TITLE : CIGARETTE DEVELOPMENT - TECHNICAL REPORT
WRITTEN BY : Z. SINGER
PERIOD COVERED : November 26th - December 22nd 1980

G E R M A N Y

233 COUNTRY

Objective

To solve the following problems encountered with the product presently in the city test in Berlin :

1. Decreasing nicotine level
2. Visibility of electro-perforated tipping paper zone
3. Harshness and dryness

Description of samples and results

In view of the decreasing nicotine level (observed from January to July 1980) the blend composition of this project had to be revised and a new leaf formula has been established.

With the aim to improve the aspect, several European suppliers were asked to submit us the alternatives of the presently used Z3/70 tipping paper from Benkert.

The following tipping papers were evaluated :

BENKERT : TH6/1 Z3/70
TH6/2 Z3/70
TH6/0175 Z3/70
} Modification of basic paper

MALAUCENE : Micro-laser perforated 3 x M. 0.11 . 6.5

ENTERLEIN : Z3/70
3 x M. 0.11 . 6.5 micro-laser perforated by Malaucène
Z3/70 electro-perforated by Tann

In order to diminish harshness and dryness trials have been carried out with :

- Three plasticizers at two concentration levels on the filter
- Citrate type cigarette paper Pela 200 MNC
- DAP treated stems using the following concentrations : 0.5 %, 1 %, 1.5 % based on stem weight

All prototypes have been taste evaluated. The version using the Pela 200 MNC cigarette paper is considered as a very good quality cigarette, clean and close to the present undiluted MLK and shows a real improvement. The analytical figures correspond to the objective.

Lately the aspect of electro-perforations of the Z3/70 tipping paper from Benkert seems to be improved.

In view of these positive facts this prototype is the final version and will probably be introduced in the foreseen product test.

335 LOLITA

Objective

The development of a full flavour cigarette having taste characteristics close to the L & M brands.
K = 10 mg/cig.
N = 0.8 mg/cig.

Description of samples and results

Three versions (32, 33 and 34) using the same specifications (Burley casing, Burley Top Flavour and PC are according to standard MARLBORO) but different AC solutions were product tested against MARLBORO LIGHTS.

In spite of the excellent position of prototype 33 it must be pointed out that the taste direction deviates from the L & M family.

In view of this, the flavour concept was revised and a new flavour system (Burley casing, PC and AC solutions) was developed in Richmond.

Trials following the specifications of the product test cigarettes have been carried out with the new flavour system. The aim of these trials is to have a candidate with requested taste characteristics which can be taken as a basis for a possible CF application.

The best taste results were obtained by using the new flavour system but with a lower rate of AC application (70 % of recommended 23 l/1'000 kg).

Z. Singer

Z. Singer

PROJECT TITLE : CIGARETTE DEVELOPMENT - TECHNICAL REPORT
WRITTEN BY : A. FRATTOLILLO
PERIOD COVERED : December 1980

U N I T E D K I N G D O M

290 HILTON

Objective

To develop a low tar Virginia type cigarette at a 9.0 mg Tar level, delivering a taste equal or similar to that of a middle tar leading brand, while conforming with the Hunter list.

Description of samples and results

For the task, two tobacco blends were formulated by the Leaf experts and produced at FTR, i.e.

- Tobacco blend No GB 1029001N02 batch No 904
- Tobacco blend No GB 1029002N02 batch No 903

Note that the preparation of both blends did not involve PC/AC additives nor flavourants.

Additional analyses were carried out for the determination of MH-30 residues in both tobacco blends, the results of which are shown below :

Tobacco blend and batch No	MH-30 Found ppm (Dry basis)	MH-30 Suggested limit (Germany) (Dry basis) ppm	MH-30 Difference in % (Δ ±)
GB 1029001N02 904	54.1	80.0	- 32.4
GB 1029002N02 903	86.8	80.0	+ 8.5

Comments

In view of the above chemical and physical properties and the positive issue of Panel A, we can say that the proposed goal of this project has been achieved.

A product, offering the choice of various organoleptic characteristics, has been developed and presented to the UK during the London meeting, December 11th 1980, for a first screening test.

The findings of MH-30 residues suggest that attention should be given to the countries of origin of tobaccos we use in our blends. Practical experience indicates that due to the use of MH-30 in tobacco growing farms, changes in the physical properties and chemical characteristics of the cured and redried product are apparent.

Tobaccos treated with MH-30 are usually much darker in colour with less filling power, high equilibrium moisture content and offer the smoker inferior smoke qualities.

369 BEAUMONT

Objective

The development of a diluted cigarette, upon the GAMMA line, at a 4.0 mg Tar level which conforms to the Hunter list.

Description of samples and results

For the achievement of the objective, two tobacco blends were formulated by the leaf experts and produced at FTR, i.e.

- Tobacco blend No GB 0236904N02 batch No 926
- Tobacco blend No GB 0236905N02 batch No 934

The above blends produced two series of cigarette prototypes among which prototype No 7, version B, system EAC-39, blend No 5 of batch No 934, incorporating 16 % of RL (US) and 25 % of ETNA, was preferred by Panel A. This prototype proved

Both tobacco blends were used for producing two series of cigarette prototypes, the analytical values of which resulted to be too low and consequently these series were rejected.

The above trials helped realizing that tobacco blend No 01 batch No 904, because of its organoleptic characteristics, was the closest one to a middle tar cigarette. Therefore, it was decided to drop tobacco blend No 02 batch No 903 from the development program.

Concentrating on blend No 01 batch No 904, made of US flue-cured, cut rolled stems and other tobaccos of high reducing sugars content, a new series of cigarette prototypes was produced for which single and dual filter combinations have been used.

The total compiling of the analytical values of the above prototypes showed unexpected variations in the RTD and tobacco weight, which upset all the analytical results, this creating confusion and reluctance in accepting any prototypes of this series.

These findings were later confirmed by the leaf experts with another negative verdict. At this time all the HILTON prototypes were rejected.

Using blend No 01 batch No 903, another series of prototypes was produced and submitted for complete evaluation in two different classes of total cigarette weight, for the following reasons :

a) To narrow RTD variations and consequently the dilution readings.

b) To learn and better understand the relationship between tobacco weight and the organoleptic smoke quality of a cigarette.

c) To ascertain and establish more realistic limits concerning the minimum tobacco weight to be used in the production of various cigarette prototypes, without effecting the firmness, cold and warm, of the finished product and the good appearance of the same.

This last series of prototypes was presented to the leaf experts, i.e.

Prototype No	74 C	83 P	85 P
Class of weight (Total weight in mg)	985 - 1010	985 - 1010	1015 - 1040

Panel A preference and opinions, about the above, are given in the following lines :

Prototype No 74 C was accepted in the class of 985 mg/cig. The taste of this product was found to be similar, in its characteristics, to that of prototype No 83 P while the direction of it recalls the EMBASSY family.

Prototype No 83 P was accepted in the class of 1010 mg/cig. This cigarette proved to be closer in taste to VANGUARD, with a cleaner true tobacco taste.

Prototype No 85 P was accepted in the class of 1015 mg/cig. This product offers good impact and the typical harshness of Virginia tobaccos. Furthermore, this cigarette has proven to be in line with the characteristics of a leading middle tar brand more than VANGUARD and fulfilled the objectives of a low tar cigarette with the impact of a middle tar brand.

The design and analytical values of the above discussed prototypes are stated in the table below :

Prototype No	74 C (985 mg)	83 P (1010 mg)	85 P (1015 mg)
Blend + lot No	GB 1029001N02 / 904 ----------		
Format	7.95 / 25 / 84.4 ----------		
Cigarette paper	WP 60	Ecusta 708	WP 60
Tipping paper	6 x M. 0.15	. 4.5 ----	Z3/20
Plug wrap	FU-POV 100	FU-POV 100	FU-POV 40
Filter type	3.4 I/46	3.4 I/46	2.5 Y/48/DICO
Dilution (%)	43	44	9
RTD (mm WG) total	68	67	114
Tar UK	8.9	8.7	9.3
SN	1.19	1.12	0.95
CO	8.3	8.2	13.9
Puff count	8.7	8.8	7.7

to be, for taste characteristics, the closest to that of PMS but, due to the too low tar values, which lessened the impact effect and, due to the high number of puffs, some improvements were necessary. Therefore, based on prototype No 7, version B, another two cigarette prototypes were produced, i.e. 11 P and 12 P, with same changes in their design. The prototype No 12, version B, in the class of 925 mg total cigarette weight, resulted to be perfectly in-line with the taste of PMS, and the analytical values were within target. This prototype was accepted by Panel A. In consideration of the above, 100,000 cigarettes were produced, test candidate No 12 T, overtipped and submitted in a hinge-lid pack issue (same for SILK-CUT) to UK Marketing for consumer product testing (November 14th 1980).

More detailed information, about the design and analytical results of the above discussed prototypes, are stated in the table below :

Prototype No	7 P	11 P	12 P	12 T
Blend + lot No	GB 0236905N02 / 934			
Format	7.95 / 25 / 84.4			
Cigarette paper	Ecu. 708	Ecu. 753	Ecu. 708	Ecu. 708
Tipping paper	6 x M. 0.15 . 4.5		4 x M. 0.15 . 4.5	
Plug wrap	FU-POV 100 K			
Filter type	PMS 100			
Dilution (%)	60	61	49	50
RTD (mm WG) total	100	94	103	107
Tar UK	2.7	3.3	4.2	4.5
SN	0.17	0.31	0.41	0.44
CO	6.8	4.0	5.6	6.8
Puff count	8.6	8.2	7.9	8.0

At this date, the objective BEAUMONT was achieved.

A. Frattcpillo

12/23/1980/ANF/cap

PROJECT TITLE : CIGARETTE DEVELOPMENT - TECHNICAL REPORT
WRITTEN BY : P. NAGEL
PERIOD COVERED : November 28th - December 19th 1980

S W I T Z E R L A N D

364 CALIFORNIA 100 mm

Objective

Adaptation of the PHILIP MORRIS MULTIFILTER 100'S to the new CALIFORNIA blend (containing 18 % of ET-1).

Description of samples and results

The trials following the specifications of the current MPH CH cigarette have been carried out with the blend of the CALIFORNIA prototype No 6P (reference is made to the monthly report of May 1980). Different cigarette papers, which are mentioned in the table below, have been tested :

Cigarette paper	Porosity ($ml/cm^2/min$)	Burning rate (s/15 cm)
Pela 22/54 M	24.5	47
Mauduit 110-6	41	45
Pela S 130 MN	53	60
Wattens WP 60	53	53
Ecusta 753	50	59
Pela 150	63	61

The prototype with the Pela S 130 MN cigarette paper gives the best organoleptic characteristics.

Prototype No		12 P
Blend No		CH 0336401N02
Cigarette paper		Pela S 130 MN
Tipping paper		4 x M. 0.15 . 4.5
Filter		MPH CH
Filter RTD	mm WG	75
Tobacco weight	mg/cig.	865
Total RTD	mm WG	102
Dilution US	%	33
TAR	mg/cig.	10.6
SN	mg/cig.	0.92
CO	mg/cig.	10.8
NO	mg/cig.	0.16
Puff count		10.9

333 TRIPLE FILTER

Objective

Application of the triple filter concept for the following projects : COLORADO, HARBARD, TEXAS, MANHATTAN.

Summary

Based on the experiences with the re-engineering of the FLINT cigarette (project EVEREST) the use of triple filter shows the following advantages : This type of filter enables the optimal combination of filtering materials in order to maximize retention capacity with still reasonable draw-resistance (RTD) :

Plug 3 Facing the tobacco. The highest efficiency and RTD.

Plug 2 Zone of dilution. Additives-containing section. Generally additives can be applied on the low efficiency and RTD tows only.

Plug 1 Mouth piece. Option can be made to obtain required total RTD (which is in agreement with a given type of cigarette) with possibility to slightly modify the analytical figures.

Description of samples and results

COLORADO (271) / HARVARD (266) / TEXAS (299)

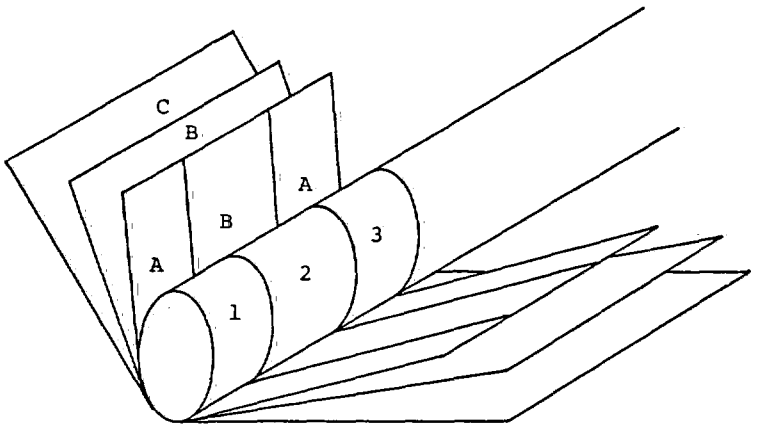
The following combinations were tested with the aim to have the candidate which gives the best taste and target deliveries.

Plug 2 (middle piece) was not changed :
For COLORADO : 5.0 X / 40'000 Pilote charcoal 11184
For HARVARD AND COLORADO } 5.0 X / 40'000 N.A. charcoal 14 x 30

Plug 1 \ Plug 3	2.5Y/48000	2.5Y/55000	2.5Y/75000	3.3/55000
2.5Y/48000	HARVARD TEXAS	HARVARD COLORADO		COLORADO
2.5Y/55000		COLORADO		
3.3Y/55000			HARVARD COLORADO	
3.4I/46000	COLORADO	COLORADO	COLORADO	
5.0Y/54000	HARVARD TEXAS	HARVARD COLORADO	COLORADO	
5.0I/46000	HARVARD TEXAS		HARVARD	

All prototypes have been taste evaluated by expert panel and retained configurations are designed below :

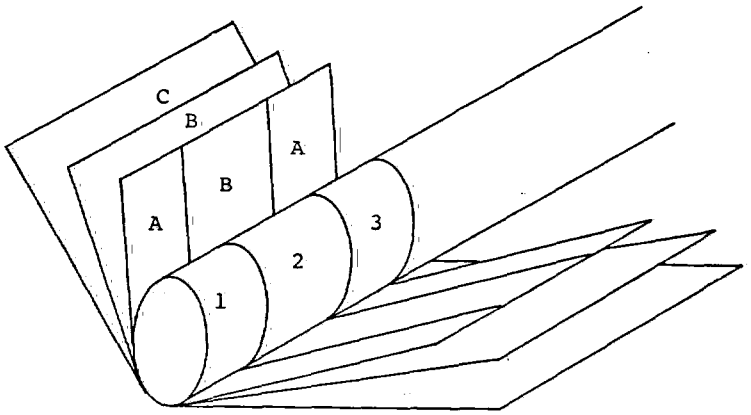
HARVARD / COLORADO



1) 2.5Y/48 white
2) 5.0X/40 black
3) 2.5Y/55 white

A) White 25 g
B) FU-POV 100
C) Tipping paper

TEXAS



1) 5.0I/46 white
2) 5.0X/40 black
3) 2.5Y/48 white

A) White 25 g
B) FU-POV 100
C) Tipping paper

P. Nagel

12/19/1980/PHN/cap

P. Nagel

PROJECT TITLE	:	CIGARETTE DEVELOPMENT TECHNICAL REPORT
WRITTEN BY	:	R. TOIMIL
PERIOD COVERED	:	November 28th - December 19th 1980

I T A L Y

307 QUEEN

In order to reach the objectives several prototypes have been produced with different tobacco weights.
The prototype B8 with the following analytical results has been chosen :

Cigarette

Total weight (mg/cig.)	1037
Tobacco weight (mg/cig.)	772
DPM (mg/cig.)	10.6
SN (mg/cig.)	0.68
CO (mg/cig.)	14
NO (mg/cig.)	0.23
Puff count	10
Dilution (%) (PMH's results)	19

Tobacco

TA (%)	1.17
RS (%)	8.1
NO_3N (%)	0.23
NH_3N (%)	0.10

This prototype has been recommended by the expert panel and accepted by Marketing.

301 HILTON 100'S

The analytical evaluation of the first prototype HILTON 100 gives the following figures :

DPM (mg/cig.)	9.8
SN (mg/cig.)	0.73
Puff count	9.2

These cigarettes have been smoked with a butt length of 39 mm. Two additional prototypes have been ordered from PMG Munich (G. Völkl). They will be produced with the FU-POV 100 K plug wrap instead of the FU-POV 40 K and with two different tipping papers (standard Z4/100 and 6 M. 0.15 . 4.5).

376 FANGIO

The specifications for the production of different prototypes have been sent to Intertaba (for the filters) and to PM Holland (for the cigarettes).
The filters have been made and will be sent to PMH.
The first results will be available at the beginning of February 1981.

P A N E U R O P E

380 GAMMA 100'S

The first two prototypes have been taste evaluated. Prototype 1P has been chosen, but a correction concerning the tobacco weight has to be made.
Several cigarettes with different weights will be taste evaluated on the 23rd of December 1980.

389 EXIT I

Different tipping papers having a substance of 40 g/m^2 have been tested, but without any improvement of the dilution.

R. Toïmil

12/19/1980/RAT/cap

PME PRODUCT DEVELOPMENT, December 1980

PROJECT TITLE : PRODUCT DEVELOPMENT LABORATORY
WRITTEN BY : S. BEGUIN
PERIOD COVERED : November 19th - December 18th 1980

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1. CIGARETTES PRODUCED IN THE MANUFACTURING DEPARTMENT

a) Total quantity : 345,000
b) Number of prototypes : 99

2. TOBACCO BLEND TRIALS IN THE PRIMARY DEPARTMENT

a) 6 x 1,000 kg (unflavoured)

3. FILTER RODS PRODUCED IN THE FILTER MAKING DEPARTMENT

a) Total quantity : 592,000
b) Number of prototypes : 11

4. PACKS (20 cig.) PRODUCED IN THE PACKING DEPARTMENT

a) Total quantity : 400
b) Number of projects : 4

5. PRODUCT TESTS PREPARED : 2

S. Béguin

SEB/cap

PROJECT TITLE : Quality Control Onnens

Period Covered : November 28, 1980 - January 8, 1981
Report Written by : A. Widmer
Report Approved by : F. Lopes

ETNA

Organisation

- A proceeding for the quality control on a routine basis was established (Ref. 1). It is dealing with the following main points:

  - Sampling locations
  - Normal and reenforced sampling plan for the process control. For each blend three limits (A,B and C) of filling power will be defined.

    If a filling power is found within the limits A: No action.
    Within limits B: Immediate information to the production people.
    Within limits C: The laboratory applies automatically the reenforced control. The results found are immediately transmitted to the production people. The reenforced control is maintained until two consecutive values are within limit B.

  - Each daily production of expanded tobacco is liberated on the basis of the results of process control and the control on the final, "equilibrated" product. The analyses of final product are available between 10 and 15 days after production.
  - Organisation of chemical analyses
  - Calibration and control of the moisture meters.

QC Analytical Services

A. Widmer

References:

- Proceeding "Contrôle Qualité ETNA"; A. Widmer, dd 08.01.81

PROJECT TITLE : Cigarette and Smoke Analysis

Period Covered : December 1 - 24, 1980
Report Written by : F. Senehi
Report Approved by : F. Lopes

DATA FROM THE OFFICIAL FRENCH LABORATORY (LNE) (see appendix)

A list has been established showing the tar and nicotine values of all PM brands analysed by LNE, compared with the results obtained by QC PME (Ref. 1).

- All the brands have been declared to correspond to the regulations of article 3 of the decree dated January 30, 1978.

- On the average, the analytical results obtained by LNE are close to those obtained by PME and the 1980 deviations are comparable with those of 1979.

	1 9 8 0			1 9 7 9		
	PME	LNE	Deviation (%)	PME	LNE	Deviation (%)
Tar	14,77	14,30	- 3,2	16,50	15,95	- 3,3
Nicotine	1,10	1,06	- 3,6	1,18	1,14	- 3,4

COMPARATIVE RESULTS BETWEEN THE GOVERNMENT CHEMIST LABORATORY UNITED KINGDOM (LGC) AND QC PME

The following table shows the tar results obtained by LGC, compared with those obtained by QC PME on the same Marlboro sampling (Survey 14):

	T A R	
Month (1980)	LGC	QC PME
June	15,95	15,94
July	15,35	16,35
August	15,81	15,23
September	16,04	15,94
October	not received	(15,84)
November	not received	(15,94)
Average	15,79	15,87 *

* The average does not include the months of October and November

The results obtained by LGC are very close to those obtained by QC PME and the Marlboro King Size remains in the "low to middle tar" group.

PROJECT TITLE : Cigarette and Smoke Analysis

SMOKING PANEL

The following version was mail-out tested:

Brand: Muratti Ambassador

Z 79 = Standard

L 32 = Trial / Incorporation of 18 % expanded tobacco and increase in filter length (+ 2 mm)

Preference was significantly given to the trial.

QC FINISHED PRODUCTS

F. Senehi

REFERENCE

1) Letter from F. Senehi, dated January 6, 1981

Enclosure:
Comparative results between the
Official French Laboratory and QC PME

08.01.81 SEF/edk

COMPARATIVE RESULTS BETWEEN THE

OFFICIAL FRENCH LABORATORY (LNE) and QC PME

Brand	Values printed on pack		Limit Values		LNE		QC PME		CIR (8-9/1980)	
	Goudrons = Tar	Nicotine	Goudrons = Tar	Nicotine	Goudrons = Tar	Nicotine	Goudrons = Tar	Nicotine	Goudrons = Tar	Nicotin
ARMADA MENTHOL	17.9	1.09	20.6	1.25	16.2	1.05	17,2	1,07	17.4	1.05
ARMADA GALION 100'S	17.9	1.09	20.6	1.25	16.8	1.01	18,0	1,15	17.7	1.03
CHESTERFIELD F.Soft	15.0	1.15	17.3	1.32	13.6	1.15	14,0	1,15	14.8	1.22
CHESTERFIELD K.S. NF	20.0	1.55	23.0	1.78	21.6	1.57	21,2	1,69	21.5	1.54
CHESTERFIELD REGULAR	21.0	1.49	24.2	1.71	21.0	1.62	21,0	1,58	21.7	1.67
EVE	(15.0	0.72)	(17.2	0.83)					(15.4	0.71)
L & M F. KING	17.0	1.31	19.6	1.51	15.3	1.30	15,7	1,28	16.9	1.27
LARK F. King Size	17.8	1.34	20.5	1.54	16.5	1.37	17,4	1,42	18.3	1.48
MARLBORO BOX	15.8	1.09	18.2	1.25	15.9	1.15	16,7	1,20	16.3	1.20
MARLBORO K.S. Soft	15.8	1.09	18.2	1.25	16.3	1.26	17,0	1,34	16.4	1.18
MARLBORO MENTHOL	15.8	1.09	18.2	1.25	16.6	1.15	16,7	1,15	16.6	1.18
MARLBORO 100 S	16.9	1.20	19.4	1.38	15.7	1.28	16,8	1,32	16.8	1.26
MERIT	7.5	0.51	8.6	0.59	7.1	0.55	7,2	0,57	7.2	0.58
MURATTI AMBASSADOR BOX	12.2	0.92	14.0	1.06	11.4	0.78	12,1	0,87	12.2	0.81
MURATTI AMB.Ext.Mild	6.7	0.45	7.7	0.52	7.0	0.45	7,1	0,49	7.3	0.48
PHILIP MORRIS F.	15.8	1.09	18.2	1.25	14.8	1.08	15,3	1,20	16.3	1.12
PHILIP MORRIS INT.	15.9	1.09	18.3	1.25	14.5	0.96	15,3	0,99	15.3	1.01
PHILIP MORRIS SUP.LIGHT	3.9	0.40	4.5	0.46	3.9	0.39	3,7	0,37	3.5	0.40
MULTIFILTER 100'S	13.9	0.98	16.0	1.13	13.2	0.87	13,5	0,96	13.7	0.94
GENERAL AVERAGE	14,82	1,05	17,06	1,21	14,30	1,06	14,77	1,10	14,99	1,08

( ) not included in the general average

PROJECT TITLE : Additives and Analytical Services

Period Covered : November 28 - December 22, 1980
Report Written by : A. Widmer
Report Approved by : F. Lopes

TRIALS WITH NEW SUPPLIERS OF TOBACCO ADDITIVES

- Citric acid (HOFMANN-LA ROCHE, Basel/ yellow sheet 5916, 2 x 500 g)

  Two samples in different form (powder, respectively granulas) were submitted. Both samples correspond to our specifications.

- Diethylene glycol (ex BAYER, PMG, Munich) - Ref. 1

  The sample corresponds to the specifications.

TRIALS WITH NEW SUPPLIERS OF GLUES

- Tipping glue (ex WIKOLIN, PMG Munich) - Ref. 2

  Three types ("5008-A 24", "5008-A 28", "5008-A 30") were tested in Munich.
  Machineability: All three were identical to the standard glue.
  Subjective evaluation on MLK-DB-cigarettes: None of the three samples is acceptable. Type "5008-A 30" was considered as the closest to the standard.
  Further trials on the basis of the type "5008 A 30" are planned.

- Glue for packing machine (LAESSER AG, Erlinsbach; "LESSO 1742/1" and "LESSO 1742/2" / yellow sheet 5875, 2 x 10 kg)

  These liquid glues on a PVA-basis were foreseen to replace the standard Hot melt "SWIFT M 9918".
  Machineability: No improvement compared with the standard glue.
  No further trials are planned.

- Glue for packing machine (LAESSER AG, Erlinsbach; "LESSO 1835-3"/ yellow sheet 5909, 90 kg) - Ref. 3

  The good results of the first trial were confirmed.
  Accepted as standard glue for the replacement of "LESSO 1885" (GDX I).
  Further trials with this glue are planned in order to replace the glues "LESSO 1178" (AMF), "LESSO 5021/2" (HLP), LESSO 1511" (HLP) and "BLATTMANN 037" (GDX I, 85 mm).

- Glue for tear type (CHEMISCHE FABRIK SCHWEIZERHALLE, Basel; ex WITCO CHEMICAL, Holland; MULTIWAX ML-445-H"/yellow sheet 5839, 1 kg)

  The glue does not give better results on the machine than the standard glue.
  Concluded on 01.02.80

PRIMARY

- Primary in Bergen op Zoom - Ref. 4

In order to check the primaries on a PME level and within the framework of the study "loss of humectants during preparation", five series of samples taken in the old primary in Bergen op Zoom were analysed (total alcaloïds, reducing sugars, propylene glycol, glycerine). The first results cannot yet be interpreted because of a lack of historical data.
The results will be taken into consideration for comparing the new primary of Bergen op Zoom with the old one.

SERVICES FOR OTHER GROUPS

- Analyses for ETNA

Determination of diethylene glycol in expanded tobacco (74 samples).

Determination of chlorid in expanded tobacco (70 samples).

These analyses were made in order to determine the residential time of the expanded tobacco in the reordering cylinder.

QC Analytical Services

A. Widmer

REFERENCES:

1. Letter from A. Widmer to Mr. F. Derstadt (PMG Munich), dd 04.12.80
2. Letter from Mr. B.W. Lutzig to A. Widmer, dd 24.09.80
   Letter from A. Widmer to Mr. B.W. Lutzig, dd 04.12.80
3. Monthly report A. Widmer, November 1980
4. Letter from A. Widmer to Mr. J. de Haas (PMH), dd 08.12.80

13.01.80
ALW/edk

PROJECT TITLE : Material Testing

Period Covered : November 4 - December 24, 1980
Report Written by : P. Balliger
Report Approved by : F. Lopes

POROUS PLUG WRAP

Schweitzer Division

Further to a technical meeting held in Neuchâtel,Schweitzer Division were requested to hand over to QC PME a sample bobbin of porous plug wrap which could be compared with Schoeller & Hoech's FU POV 40 L, one of our standard qualities presently used.

Brodano

According to Brodano's representatives, they have succeeded in eliminating big variations of the porosity previously observed on their product. Consequently, an order was placed for porous plug wrap sample bobbins with the following porosities: 20 - 40 - 60 K.

CIGARETTE PAPER

In order to qualify an alternative quality of cigarette paper for MLK-DB, the below mentioned suppliers have been asked to develop a prototype with the same physical characteristics as Pela 200 Mn standard quality.

Wattens

For the time being, this supplier is not able to meet our requirements regarding wire-mark appearance.

Miquel y Costas

No samples have been submitted yet.

Glatz

Out of five different versions submitted for analytical purposes, only two complied with our objectives, i.e. NSP 200 Verge Variante 1/2 and 2/2. The others were rejected mainly for porosity reasons.

PROJECT TITLE : Material Testing

Mauduit

An analytical investigation carried out on the quality 1105 A Verge gave acceptable results.

A qualification test will therefore be made by producing cigarettes MLK-DB in Berlin with the following cigarette papers:

NSP 200 Verge Variante 1/2	Glatz
NSP 200 Verge Variante 2/2	Glatz
1105 A Verge	Mauduit

METHOD PME

Opacity No. 41
Tearing resistance No. 13 B
Colour tonality No. 29 B

The above mentioned methods were established.

TECHNICAL SHEETS

Cigarette paper

No. 30 0046	NSP 200 Verge 1/2	Glatz
No. 30 0047	NSP 200 Verge 2/2	Glatz
No. 30 0048	NSP 300 Verge 3/2	Glatz
No. 30 0049	NSP 200 Verge 4/2	Glatz
No. 30 0050	NSP 200 Verge 5/2	Glatz
No. 30 0051	1105 A Verge	Mauduit

QC PME

P. Balliger

08.01.81 PBA/edk

PROJECT TITLE : SPECIFICATIONS / PROCESS ASSURANCE

Period Covered : 28.11. - 24.12.1980
Report Written By : T. Bel - C. Flury - A.-M. Kopp
Report Approved By: J.B. Boder

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0. SPECIFICATIONS - OVERALL

0.1 Weight of cigarette seam glue - refer to point 5.2.

0.2 Test with standardized tobacco weights and AccuRay limits - refer to point 5.1.

1. SPECIFICATIONS PER PRODUCTION CENTER PME

1.1 FTR Neuchâtel

Minor modifications.

1.2 INM SpA Zola Predosa

1.3 PMH Eindhoven and Bergen op Zoom

Minor modifications.

1.4 PMG Munich and Berlin

- Except for Lark, a 21 mm filter plug is used on all King Size cigarettes. On most of these brands, the width of the tipping paper has been increased from 24 to 25 mm.

- A situation table has been drawn regarding the production of diluted and non-diluted Marlboro MLK DB cigarettes in Berlin and Munich.

- A new packing version, PMS 205 Ph. Morris Super Lights, for sale in Guadeloupe - Ile-de-réunion, has been produced.

1.5 WELTAB Bruxelles

- Following Mr Fauville's visit in Neuchâtel, several specs modifications as well as the specs for production at Jubilé, Liège BE, of the present Weltab King Size cigarettes, are in preparation.

1.6 PM UK London

- The tobacco moisture at the new Legg cutter has been modified in PM UK's processing specification.

1.7 PM Nigeria, Ilorin

- Following the distribution of the newly updated complete PMN specs file, a long list of modifications has been sent in by MPP PME on the one hand and by PMN on the other hand.

1.8 Licensees

- Austria:
A completely reviewed specs file for the production of MLF Marlboro Filter at Austria Tabakwerke, Vienna, has been distributed.

- DDR, Dresden:
A completely reviewed specs file for the production of MLF Marlboro Filter at VEB Dresden has been distributed.

- Finland:
Following the discussions held with Mrs Byckling and Mr Rosimo, ATO Hyrylä, as well as with Mr J. Rae, most of the Finnish specs file has been redone. Details on modifications see separate report.

- Italy:
A proposal regarding standardized cigarette moistures at packing has been addressed to Mr A. Trento.

- Holland:
The tear tape quality of four packing versions produced with Laurens BV, The Hague, has been corrected. Following C. Flury's visit there, all processing, filter making, and cigarette making and most packing specifications of Ed. Laurens BV will have to be redone (new blends and filter length increase from 20 to 22 mm).

- Switzerland:
The modifications in the specs of Ed. Laurens SA Geneva (blends, filter length increase, etc.) will concern most of their specs sheets. The list of modifications will be available by the end of January, 1981.

- Great Britain:
Manchester Tobacco Co., producing MLK Marlboro King Size under contract of PM UK London, as well as L & M cigarettes, have asked if their L & M cigarette sizes

could be brought in line with the MLK sizes. A situation report has been drawn for the intention of Mr J. Rae.

2. MATERIAL SPECIFICATIONS

2.1. Approvals by suppliers

P FM/036 semi-filter FLI 33.9010 & charcoal pilote 11184 from Baumgartner.

2.2. An MPP + QA Coordination meeting has taken place in Lausanne on December 11, 1980. See minutes issued.

3. PME STANDARD RECIPES

Preliminary information has been provided to FTR and PMG regarding the future Super Juice recipes. As from about mid February, a semi-manufactured mixture will be used for the Super Juice, instead of the present 6 individual ingredients.

4. SPECIFICATIONS ON EDP

During the work session of December 16, 1980, it has been decided that C. Flury and C. Cotting will document the current business situation and evaluate the possibilities of computer support for PME specifications, between January 7, and February 27, 1981.

5. P R O C E S S A S S U R A N C E

5.1. AccuRay (References 1 to 4)

- It has been decided to carry out an industrial test of three months'duration , as from beginning January, 1981. This test is linked to tobacco weights standardized for brands which have pratically the same blend. See also point 5.9. below.

- Each production center will start the test beginning January with

- Lower mean weight limit	: -	2,5 %
- Lower limit cigarette rod	: -	10 % of tobacco weight + NTM weight

Some of the parameters might have to be modified during the test period so as to guarantee a good product quality.

- Special recommendations have been addressed to Weltab and PMH Eindhoven, which have no computer available, so as to be able to collect a maximum of information.

5.2. NTM Non-tobacco Material Weights (Reference 7)

- Following the different trials made, it has been decided that a weight of 1,5 mg should be foreseen for the glue on the cigarette seam (for all brands). This information has been passed to all production centers, who will adopt this weight when establishing making specifications in the future.

- We are still waiting for certain results regarding the "Determination of the quantity of glue on the tipping paper".

- Following a visit in FTR Cousset, it has been decided that the following tests will be made in January, 1981 :

  - Determination of quantity of glue on filter (inner and seam glue)

  - Determination of the quantity of glue on cigarette seam, when liquid glue is used

  - Determination of the quantity of glue on the tipping paper.

5.6. Burley Treatment

This study is still pending. We shall wait for the two primaries in Berlin and Bergen op Zoom to become operational, so that the data available can be completed.

5.7. Kitchen and Pre- and After-cutting Solutions

Same remark as for point 5.6.

5.9. Tobacco Weights (References 1 and 2)

The proposal to standardize the tobacco weights at 12% moisture has been approved. The new tobacco weights are based on a fix density on the one hand, and on the composition of the blends on the other hand.

The brands concerned are Marlboro (MLF - MLH - MLK) and Merit (MER).

5.10. New Primary Bergen op Zoom and Berlin (Reference 5)

Upon request of QA Bergen op Zoom, some recommendations have been addressed to PMH regarding the important parameters to be respected during tobacco processing, as well as

the moistures and temperatures which should be aimed.

5.11. Standard Recipes

This check is still pending.

5.12. Project Fortuna (Reference 6)

A detailed programm regarding the trial planned beginning 1981, has been addressed to the project leader.

Thierry Bel

Catherine Flury

Anne-Marie Kopp

References

1. Memo to J. Gibson dated 1.12.1980
2. Memo to QA managers " 5.12.1980
3. Memo to H. Fauville, Weltab " 9.12.1980
4. Memo to J. de Haas, PMH " 9.12.1980
5. Memo to J. de Haas, PMH " 22.12.1980
6. Memo to J.L. Débétaz, PME " 17.12.1980
7. Memo to QA managers " 15.12.1980

PROJECT TITLE : Physical Testing Methods

Period Covered : December 6 - 24, 1980
Report Written by : T. Piko
Report Approved by : F. Lopes

PRESSURE DROP AND DILUTION INSTRUMENTS EX RICHMOND

The PDI/DDI instrument of PMG Berlin has been sent to us. Together with the third instrument for FTR, it will be equipped with an electronic control and a calculator model HP-97. With a previous programming, the latter will allow to calculate the average, the standard deviation as well as the mini/maxi values of RTD and cigarette dilution results.

The electronic controls will be delivered at the end of February 1981.

AUTOMATIC SCALE FOR INDIVIDUAL CIGARETTE WEIGHT

The mechanical part for the automatic scale intended for the selection of the cigarettes for the Tobacco Lot Analysis was ordered. The instrument will be ready by the end of February 1981.

PHYSICAL TESTS

The results of the physical tests for cigarettes and filters were evaluated. A report will be sent to the participants during January 1981.

QC METHODS

T. Piko

08.01.81
THP/edk

PROJECT TITLE : PATENTS

PERIOD COVERED : December 1980

WRITTEN BY : J.C. Mandiratta

REDUCTION OF NITRATE AND NITRITE IN TOBACCO
NINO - WEST GERMAN PATENT APPLICATION P 2816427

Reacting to the office action of the West Gemran Patent Office the above mentioned application has been split up into two applications. In the initial application aerobic fermentation process has been claimed and the additional application claims anaerobic fermentation process.

CS-FILTER PATENT APPLICATION IN WEST GERMANY

Messrs Baumgartner Papiers SA has opposed our above mentioned pending patent application in West German Patent Office. A reply to the office action is being prepared and will be submitted to the Patent Office before 4th April 1981.

RENEWAL FEES

Renewal fees have been paid for the following patents:

Continuous process for the production of a paste with additives which can be formed into a smokable material and a stirrer crushing mill for the execution of this process,
Switzerland 598868, West German PS 2551900;

Smokable material and the process of making the same,
Switzerland 591819, West German PS 2358657, Great Britain 1401099;

Extruder nozzle for shaping a pulp for smokable strands of fibers,
Great Britain 1444816, West German PS 2358656;

Process for shaping a pulp mash or slurry into a smokable fiber,
Great Britain 1402510, West German PS 2358611;

Method for processing parts of tobacco substitute plants into a tobacco substitute leaf,
Great Britain 1315086, Switzerland 529520, West German OS 2151445.

VISITOR

Dr. Hach visited us on 11th and 12th December regarding different pending matters.

J.C. Mandiratta

T S OSDENE

JAN 22 1981